WO 3181

0053629

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CASE NARRATIVE

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

RECEIVED
SEP 07 2000
EDMC

RECEIVED
JUN 2000

June 8, 2000

Attention: Joan Kessner

Project Number	:	34666
SAF	:	B99-042
SDG	:	W03181
Number of Samples	:	one (1)
Sample Matrix	:	Soil
Data Deliverable	:	Summary
Date SDG Closed	:	May 24, 2000

II. Introduction

On May 24, 2000, one (1) "soil" sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received at the St. Louis lab on 5/25/00 at 2 degrees C. See the attached Sample Summary form for the Lab ID's and corresponding Client Ids.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: ICP Metals – 6010 (Trace) {As, Cr, Pb}
Mercury – 7471 – (CV)
PCBs – 8082

Deviation from Request: None

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
MS- Matrix Spike.
DUP- Matrix Duplicate
MSD- Matrix Spike Duplicate.

Quanterra

Bechtel Hanford Incorporated
June 8, 2000
Project Number: 34666
SDG: W03181

V. Comments

General: The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

PCB: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The Matrix spike/Matrix spike duplicate RPDs are outside the control limits. The individual recoveries are within criteria.

Metals: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

There were no comments or non-conformances associated with the metals data.

I certify that this Summary is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Marti Ward
St. Louis Project Manager

SAMPLE SUMMARY

F0E260111

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
DDR6W	001	B0XNH0	05/23/00	10:20

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

F0E260111

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
PCBs by SW-846 8082	SW846 8082	SW846 3550
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 5/26/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 8:16:16
STL St. Louis User Id.: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 34666
PROJECT MANAGER: MARTI WARD LAB ID: F-0E260111-001
PROJECT #: 100H AREA FULL WORK ORDER: DDR6W
REPORT TO: Joan Kessner RECEIVING DATE: 5/24/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 5/23/00
SITE: B99-042 ANALYTICAL DUE DATE: 6/12/00N
AMOUNT REC'D: 60G,120G REPORT DUE DATE: ~~6/15/00~~ 6/14/00
STORAGE LOC: S7C PRIORITY: 19
LOT COMMENTS: QC is billable SAMPLING TIME: 10:20
MATRIX: SOLID RECEIVING TIME: 11:00
SAMPLE ID: B0XNH0
QC PACKAGE: Special Report - see checklist SDG# : W03181
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace) METALS, TOTAL - Soils MT6010_S AS,CR,PB (A-46-QM-01) DDR6W Protocol: A QC Program: STANDARD TEST SET	06	5/26/00	0/00/00	11/19/00
Mercury (7471A, Cold Vapor) - Solids METALS, TOTAL (Method Exclusive) - Solids M7471_S HG (A-70-09-01) DDR6W Protocol: A QC Program: STANDARD TEST SET	06	5/26/00	0/00/00	6/20/00
Moisture, Percent (160.3) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (A-88-WM-01) DDR6W-1-0E Protocol: A QC Program: STANDARD TEST SET	06	5/26/00	0/00/00	8/30/00
PCBs (8082) SONICATION w/ACID STRIP (PCB) STL: HANFORD PCB GC:LIST-1(7) (A-71-QH-01) DDR6W-1-0F Protocol: A QC Program: STANDARD TEST SET	06	5/26/00	6/06/00	7/16/00

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 5/26/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 8:16:16
STL St. Louis User Id.: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 34666
PROJECT MANAGER: MARTI WARD LAB ID: F-0E260111-001-D
PROJECT #: 100H AREA FULL WORK ORDER: DDR6W MSD
REPORT TO: Joan Kessner RECEIVING DATE: 5/24/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 5/23/00
SITE: B99-042 ANALYTICAL DUE DATE: 6/12/00N
AMOUNT REC'D: 60G,120G REPORT DUE DATE: 6/15/00
STORAGE LOC: S7C PRIORITY: 19
LOT COMMENTS: QC is billable SAMPLING TIME: 10:20
MATRIX: SOLID RECEIVING TIME: 11:00
SAMPLE ID: B0XNH0
QC PACKAGE: Special Report - see checklist SDG# : W03181
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	5/26/00	0/00/00	11/19/00
METALS, TOTAL - Soils				
MT6010_S AS,CR,PB				
(A-46-QM-01) DDR6W Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	5/26/00	0/00/00	6/20/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) DDR6W Protocol: A QC Program: STANDARD TEST SET				
PCBs (8082)	06	5/26/00	6/06/00	7/16/00
SONICATION w/ACID STRIP (PCB)				
STL: HANFORD PCB GC:LIST-1(7)				
(A-71-QH-01) DDR6W-1-0H Protocol: A QC Program: STANDARD TEST SET				

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 5/26/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 8:16:16
STL St. Louis User Id.: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 34666
PROJECT MANAGER: MARTI WARD LAB ID: F-0E260111-001-S
PROJECT #: 100H AREA FULL WORK ORDER: DDR6W MS
REPORT TO: Joan Kessner RECEIVING DATE: 5/24/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 5/23/00
SITE: B99-042 ANALYTICAL DUE DATE: 6/12/00N
AMOUNT REC'D: 60G,120G REPORT DUE DATE: 6/15/00
STORAGE LOC: S7C PRIORITY: 19
LOT COMMENTS: QC is billable SAMPLING TIME: 10:20
MATRIX: SOLID RECEIVING TIME: 11:00
SAMPLE ID: B0XNH0
QC PACKAGE: Special Report - see checklist SDG# : W03181
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	5/26/00	0/00/00	11/19/00
METALS, TOTAL - Soils				
MT6010_S AS,CR,PB				
(A-46-QM-01) DDR6W Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	5/26/00	0/00/00	6/20/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) DDR6W Protocol: A QC Program: STANDARD TEST SET				
PCBs (8082)	06	5/26/00	6/06/00	7/16/00
SONICATION w/ACID STRIP (PCB)				
STL: HANFORD PCB GC:LIST-1(7)				
(A-71-QH-01) DDR6W-1-0G Protocol: A QC Program: STANDARD TEST SET				

Q-27038 CWR 667 20 Airborne 4012705716

LOT #F0E260111

STL St. Louis

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-042-029	Page 1 of 1
Collector: Renee Nielson	Company Contact: Mike Stankovich; Telephone No.: 531-7620	Project Coordinator: TRENT, SJ	Price Code: 8L; Data Turnaround: 21 Days
Project Designation: 100 H Area - Full Protocol	Sampling Location: 100-H-5	SAF No.: B99-042	Air Quality ☐
Ice Chest No.: #101	Field Logbook No.: EL-1500-1; COA: R100H52600	Method of Shipment: Hand deliver - Govt. Vehicle	
Shipped To: Severn Trent Incorporated	Offsite Property No.: NA	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS: PCBs

Special Handling and/or Storage: PCBs RN 5/23/00

SDG W03181 — SAMPLE ANALYSIS — Due 6-14 — JOE240187

Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Type of Container	No. of Container(s)	Volume	Activity Scan	See item (1) in Special Instructions	Isotopic Plutonium; Isotopic Uranium	Strontium-90,90 – Total Sr; Nickel-63	PCBs - 8082	See item (2) in Special Instructions				
				None	P	1	20mL	X						1x 125G	1x 60G		
				None	aG	1	60mL		X	X	X		X				
				None	aG	1	60mL										
				None	aG	1	60mL										
				Cool 4C	aG	1	120mL										
				None	P	1	1000mL										
B0XNH0	DDM02	Soil	5-23-00	1020				X	X	X	X	X	X			B0WX	Y7

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
B Nielson/R Nielson	5/23/00 1550	R Thorsen	5-23-00/1550
R. Thorsen	5-24-00/1100	K. Ashtenberg	5-24-00 1100
K. Ashtenberg	5-24-00 1600	Jody Waters	0900

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (Superfund) (Arsenic, Chromium, Lead); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155)

Matrix *
S-Soil
SD-Sediment
SO-Solid
S-Sludge
W-Water
O-Oil
A-Air
DS-Drum Solids
DL-Drum Liquids
T-Tissue
WI-Wipe
L-Liquid
V-Vegetation
X-Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

9

STL St. Louis

ERC Radiological Counting Facility Analysis Report

ECF Number: ECF7127

Project ID: [illegible]

SAF Number: [illegible]

Sample Date & Time: 1/28/00 0838

Date Analyzed: 1/31/00 8:26

Sample ID: BOYXY7

Gamma Energy Analysis

Nuclide		Activity (pCi/g)		Error (pCi/g)	MDA (pCi/g)
K-40		1.8E+01	+/-	1.9E+00	9.3E-01
Co-60	<	7.1E-02			7.1E-02
Cs-137	<	7.6E-02			7.6E-02
Eu-152	<	1.5E-01			1.5E-01
Eu-154		1.4E-01	+/-	9.3E-02	1.2E-01
Eu-155	<	1.8E-01			1.2E-01
Am-241	<	1.4E-01			1.4E-01

/26

BOYNH0
BUYNF9
BOX4W2
BOX4W3
BUKNF7
BUKN[illegible] 524.00

	Activity (pCi/g)		Error (pCi/g)
Total GEA (pCi/g)	1.8E+01	+/-	1.9E+00
Gross Alpha**	N/R	+/-	N/R
Gross Beta	N/R	+/-	N/R

Definitions

All errors reported at 2 standard deviations.
N/R = no result or analysis was requested. <MDA = Less than detection limit.
All GEA results reported as "<" for the Minimum Detectable Concentration (MDC) value for that radionuclide.
Rounding error may result in the reported total GEA activity differing from the sum of the > MDA GEA values in the second significant digit.

[illegible]

** The gross alpha results are not corrected for [illegible]

No peaks for this radionuclide were visible above background in the spectrum. The result was reported as less than MDC.

Analyst [signature] 1/31/00
T. [illegible]

Report To: [illegible] Fax: [illegible]

Report Printed: Monday, January 31, 2000

COPY

LOT #F0E260111

Figure 1. Sample Check-in List

Date/Time Received: 5-24-00 11:00 SDG#: W03181

Work Order Number: JOE240187 SAF#: B99-042

Shipping Container ID: #101 Chain of Custody #: B99-042-029

1.	Outermost shipping container damaged?	Yes [ ] No [✓] 5/24/00
2.	Custody Seals on shipping container intact?	Yes [ ] No [ ]
3.	Custody Seals dated and signed?	Yes [ ] No [ ]
4.	Chain-of-Custody record present?	Yes [✓] No [ ]
5.	Chain-of-Custody includes the following information:	
	- Client name	Yes [✓] No [ ]
	- Project name or number	Yes [✓] No [ ]
	- Sample date/time for each sample	Yes [✓] No [ ]
	- Container types, sizes and number of containers	Yes [✓] No [ ]
	- Short description of sample, i.e., matrix	Yes [✓] No [ ]
	- Analyses requested	Yes [✓] No [ ]
	- Preservation used or "none" or N/A if not applicable	Yes [✓] No [ ]
	- Date and time of relinquish and receipt	Yes [✓] No [ ]
	- Signatures of those persons relinquishing and receiving	Yes [✓] No [ ]
6.	Sample numbers on chain of custody match those on sample containers?	Yes [✓] No [ ]
7.	Collection date and date of laboratory receipt are within project specific holding time requirements?	Yes [✓] No [ ]
8.	Cooler temperature: 4°C 6 Bottles	
9.	Vermiculite/packing materials is:	Wet [ ] Dry [✓]

10.	Samples have: ✓ tape	____ hazard labels
	✓ custody seals	____ appropriate sample labels
11.	Samples are: ✓ in good condition	____ leaking
	____ broken	____ have air bubbles

12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]

13. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K Atkinley Date: 5-24-00

Telephone/Fax/E:mailed to: _____ On _____ By _____

STL St. Louis

Committed to *Your* Success

000667

Lot No.: F0E260111

W03181

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Hanford

Date: 05-25-00 Time: 0900

Quote No: 34666

Initiated by: JCJ

Shipper/No: 4012705416 Airborne

RFA/COC Numbers: B99-042-029

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing/not tamper evident type (circle all that apply).
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Sample volume insufficient for analysis
11. ☐ Other (explain below) _____

☒ No variances were noted during sample receipt.

☒ Cooler Temperature Upon Receipt in °C: 20

Temperature Variance Does Not Affect the Following Analyses: _____

Notes: _____

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Judy Watson Date: 05-25-00

Project Management Review: Millard Date: 5.26.00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 03/06/00

GC

BECHTEL HANFORD, INC.

Client Sample ID: B0XNH0

~~GC Semivolatiles~~ PCBs Dayes 6/8/2000

Lot-Sample #...: F0E260111-001	Work Order #...: DDR6W10F	Matrix.....: SOLID	
Date Sampled...: 05/23/00	Date Received..: 05/24/00		
Prep Date.....: 06/02/00	Analysis Date..: 06/04/00		
Prep Batch #...: 0154295			
Dilution Factor: 1			
% Moisture.....: 0.75	Method.....: SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	33	ug/kg	30
Aroclor 1221	ND	33	ug/kg	30
Aroclor 1232	ND	33	ug/kg	30
Aroclor 1242	ND	33	ug/kg	30
Aroclor 1248	ND	33	ug/kg	30
Aroclor 1254	ND	33	ug/kg	31
Aroclor 1260	ND	33	ug/kg	31

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	59	(10 - 199)
Decachlorobiphenyl	73	(10 - 200)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: F0E260111 **Work Order #...:** DDR6W10G-MS **Matrix.....:** SOLID
MS Lot-Sample #: F0E260111-001 DDR6W10H-MSD
Date Sampled...: 05/23/00 **Date Received..:** 05/24/00
Prep Date.....: 06/02/00 **Analysis Date..:** 06/04/00
Prep Batch #...: 0154295
Dilution Factor: 1 **% Moisture.....:** 0.75

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Aroclor 1016	ND	168	138	ug/kg	82		SW846 8082
	ND	168	109	ug/kg	65 p	24	SW846 8082
Aroclor 1260	ND	168	151	ug/kg	90		SW846 8082
	ND	168	115	ug/kg	69 p	27	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	57	(10 - 199)
	51	(10 - 199)
Decachlorobiphenyl	78	(10 - 200)
	63	(10 - 200)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F0E260111 **Work Order #...:** DE47V101 **Matrix.....:** SOLID
MB Lot-Sample #: F0F020000-295

Prep Date.....: 06/02/00
Analysis Date..: 06/04/00 **Prep Batch #...:** 0154295
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	59	(10 - 199)
Decachlorobiphenyl	71	(10 - 200)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: F0E260111 **Work Order #...:** DE47V102 **Matrix.....:** SOLID
LCS Lot-Sample#: F0F020000-295
Prep Date.....: 06/02/00 **Analysis Date..:** 06/04/00
Prep Batch #...: 0154295
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Aroclor 1016	**167**	**152**	**ug/kg**	**91**	**SW846 8082**
Aroclor 1260	**167**	**160**	**ug/kg**	**96**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85	(62 - 162)
Decachlorobiphenyl	85	(53 - 145)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METALS

BECHTEL HANFORD, INC.

Client Sample ID: B0XNH0

TOTAL Metals

Lot-Sample #...: F0E260111-001 Matrix.....: SOLID
Date Sampled...: 05/23/00 Date Received..: 05/24/00
% Moisture.....: 0.75

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0151169						
Mercury	0.0094 B	0.034	mg/kg	SW846 7471A	05/30/00	DDR6W101
		Dilution Factor: 1		MDL.....: 0.0071		
Prep Batch #...: 0151177						
Arsenic	3.0	1.0	mg/kg	SW846 6010B	05/30-05/31/00	DDR6W104
		Dilution Factor: 1		MDL.....: 0.20		
Chromium	15.9	0.50	mg/kg	SW846 6010B	05/30-05/31/00	DDR6W10A
		Dilution Factor: 1		MDL.....: 0.091		
Lead	3.7	0.30	mg/kg	SW846 6010B	05/30-05/31/00	DDR6W107
		Dilution Factor: 1		MDL.....: 0.15		

NOTE(S):

B Estimated result. Result is less than RL.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0E260111 **Matrix.....:** SOLID
Date Sampled...: 05/23/00 **Date Received..:** 05/24/00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F0E260111-001 **Prep Batch #...:** 0151169									
Mercury									
	0.0094	0.168	0.162	mg/kg	91		SW846 7471A	05/30/00	DDR6W102
	0.0094	0.168	0.162	mg/kg	91	0.10	SW846 7471A	05/30/00	DDR6W103
			Dilution Factor: 1						
MS Lot-Sample #: F0E260111-001 **Prep Batch #...:** 0151177									
Arsenic									
	3.0	202	200	mg/kg	98		SW846 6010B	05/30-05/31/00	DDR6W105
	3.0	202	199	mg/kg	97	0.54	SW846 6010B	05/30-05/31/00	DDR6W106
			Dilution Factor: 1						
Chromium									
	15.9	20.2	37.0	mg/kg	104		SW846 6010B	05/30-05/31/00	DDR6W10C
	15.9	20.2	35.8	mg/kg	99	3.2	SW846 6010B	05/30-05/31/00	DDR6W10D
			Dilution Factor: 1						
Lead									
	3.7	50.4	52.0	mg/kg	96		SW846 6010B	05/30-05/31/00	DDR6W108
	3.7	50.4	51.6	mg/kg	95	0.84	SW846 6010B	05/30-05/31/00	DDR6W109
			Dilution Factor: 1						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0E260111 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0E300000-177 **Prep Batch #...:** 0151177						
Arsenic	ND	1.0	mg/kg	SW846 6010B	05/30-05/31/00	DDWFF10D
		Dilution Factor: 1				
Chromium	ND	0.50	mg/kg	SW846 6010B	05/30-05/31/00	DDWFF122
		Dilution Factor: 1				
Lead	ND	0.30	mg/kg	SW846 6010B	05/30-05/31/00	DDWFF10E
		Dilution Factor: 1				
MB Lot-Sample #: F0E300000-169 **Prep Batch #...:** 0151169						
Mercury	0.012 B	0.033	mg/kg	SW846 7471A	05/30/00	DDWF0101
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Lot-Sample #...: F0E260111 **Matrix.....: SOLID**

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Mercury	3.13	2.94	mg/kg	94		SW846 7471A	05/30/00	0151169
	3.13	3.18	mg/kg	101	7.6	SW846 7471A	05/30/00	0151169
			Dilution Factor: 5					
Arsenic	53.2	58.9	mg/kg	111		SW846 6010B	05/30-05/31/00	0151177
	53.2	59.7	mg/kg	112	1.3	SW846 6010B	05/30-05/31/00	0151177
			Dilution Factor: 1					
Chromium	99.4	101	mg/kg	102		SW846 6010B	05/30-05/31/00	0151177
	99.4	102	mg/kg	103	0.66	SW846 6010B	05/30-05/31/00	0151177
			Dilution Factor: 1					
Lead	97.8	105	mg/kg	108		SW846 6010B	05/30-05/31/00	0151177
	97.8	105	mg/kg	108	0.05	SW846 6010B	05/30-05/31/00	0151177
			Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.